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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,299	04/02/2004	Bunya Sato	09792909-5849	1885

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EXAMINER

CHUO, TONY SHENG HSIANG

ART UNIT	PAPER NUMBER
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1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/817,299	SATO, BUNYA	
	Examiner	Art Unit	
	Tony Chuo	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/15/07 has been entered.

Response to Amendment

2. Claims 1-4 are currently pending. The objection to claim 4 is withdrawn. The amended claims do overcome the previously stated 103 rejections. However, upon further consideration, claims 1-4 are rejected under the following new 103 rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sands et al (GB 2206726) in view of Kojima (JP 2000-036299), and further in view of applicant's admitted prior art.

The Sands reference discloses a battery pack housing a plurality of battery cells "30", the battery pack comprising: a housing (not shown) having conductive bus plates respectively connecting positive electrodes and negative electrodes of the plurality of battery cells to outside terminals; wherein the conductive bus plates have structures in which a first member "37" is joined with a second member "33" such that the first member having excellent weldability is arrayed in a plurality of islands state in the second member having excellent conductivity, wherein the positive electrodes and the negative electrodes of the battery cells "30" are welded to the first member "37" of the conductive bus plates (See Figure 3 and page 7, lines 9-24 and page 13, lines 17-18). It also discloses a second member "51" having excellent conductivity that has a structure having an oblong card shape that is larger than the first member "52" in outer shape thereof (See Figure 5). It also discloses a first member joined with a second member that has a combined thickness that is approximately uniform (See Figure 3). It also discloses a first member that is joined with the second member such that one surface of the first member shows an islands-like shape and the other surface thereof shows a shape that the island portions are connected to each other (See Figure 3). It also discloses a second member that is made of mild steel which is an alloy of copper and aluminum because the composition of mild steel includes small amounts of copper and aluminum (See page 7, line 15).

However, Sands et al does not expressly teach a first member that includes a rectangular slit in at least one island portion of the first member; positive electrodes and negative electrodes that are welded to the first member through resistance welding; positive and negative electrodes of the battery cells that are welded through a series spot electricity welding such that the slits are straddled by electrodes thereof; and a first member that contains any one of or plural kinds among: nickel, nickel alloy, iron, iron alloy, stainless steel, zinc, zinc alloy, platinum, platinum alloy. The Kojima reference discloses a terminal connecting plate "1" that has a rectangular slit "5"; wherein the positive electrodes and the negative electrodes are welded to the terminal connecting plate by resistance welding; and wherein the terminal connecting plate is made of nickel (See paragraphs [0016],[0019] and Drawing 3).

Examiner's note: Claims 1 and 4 are construed as product-by-process claims and that product itself does not depend on the process of making it. According, in a product-by-process claim, the patentability of a product does not depend on its method of production. Therefore, the patentability of the battery pack does not depend on the method of welding the first member by resistance welding or by a series-spot-electricity welding such that the slits are straddled by electrode thereof.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Sands battery pack to include a first member that includes a rectangular slit in at least one island portion of the first member; positive electrodes and negative electrodes that are welded to the first member through resistance welding; positive and negative electrodes of the battery cells that are welded

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through a series spot electricity welding such that the slits are straddled by electrodes thereof; and a first member that contains any one of or plural kinds among: nickel, nickel alloy, iron, iron alloy, stainless steel, zinc, zinc alloy, platinum, platinum alloy in order to improve the weldability of the first member to the battery electrodes, to reduce the electric resistance of the first member, and to utilize materials that are known to have excellent weldability properties.

However, Sands et al as modified by Kojima does not expressly teach a second member that has a projecting portion for connecting a control circuit substrate that is provided on one short side of a plate portion having an oblong card shape. The applicant's admitted prior art discloses a terminal board "4-1" that has a projecting portion "15a" on one short side of a plate portion having an oblong card shape (See Figure 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Sands/Kojima battery pack to include a second member that has a projecting portion for connecting a control circuit substrate that is provided on one short side of a plate portion having an oblong card shape in order to facilitate the connection of the bus plate to a control circuit substrate.

Response to Arguments

5. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Chuo whose telephone number is (571) 272-0717. The examiner can normally be reached on M-F, 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TC


JONATHAN CREPEAU
PRIMARY EXAMINER